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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/822,577 | 04/12/2004 | Hideaki Shinmei | 61148 (70904) | 2632 |
| 7590 | 12/13/2005 | | EXAMINER | |
| George N. Chacras Edwards & Angell, LLP P.O. Box 55874 Boston, MA 02205 | | | | BALAOING, ARIEL A |
| | | ART UNIT | | PAPER NUMBER |
| | | 2683 | | |

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|---------------------------|------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/822,577 | SHINMEI, HIDEAKI | |
| | Examiner Ariel Balaong | Art Unit 2683 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 12 April 2004.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-20 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 12 April 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-9, 13, 14, 16-20 rejected under 35 U.S.C. 102(e) as being anticipated by CALLAWAY, JR et al (US 6,745,038 B2).

Regarding claim 1, CALLAWAY discloses a wireless communications apparatus (abstract) comprising: reception level acquisition means for acquiring respective reception levels of wireless signals transmitted from at least one mobile terminals (abstract; column 5:line 44-53); and relative distance estimation means for estimating a relative distance to the mobile terminal in accordance with the reception level (abstract; column 5:line 44-column 6:line 51).

Regarding claim 2, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level acquisition means for acquiring respective transmission levels of the

mobile terminals (column 7:line 59-column 8:line 48); and difference value calculation means for calculating respective difference values between the transmission levels and the reception levels (column 7:line 59-column 8:line 48; path loss calculations), wherein: the relative distance estimation means estimate a relative distance with respect to the mobile terminal in accordance with the difference value, instead of the reception level (column 7:line 59-column 8:line 48).

Regarding claim 3, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses wherein: the reception level acquisition means measure the respective reception levels of the wireless signals (abstract; column 5:line 44-column 6:line 51; column 7:line 59-column 8:line 48); and the transmission level acquisition means retrieve respective transmission levels of the mobile terminals contained in the wireless signals (abstract; column 5:line 44-column 6:line 51; column 7:line 59-column 8:line 48).

Regarding claim 4, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level writing means for writing a transmission level of the wireless communications apparatus into a wireless signal to be transmitted to the mobile terminal (column 5:line 44-column 6:line 51; column 7:line 59-column 8:line 48).

Regarding claim 5, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses wherein: the transmission level writing means write an identification code of the wireless communications apparatus into the wireless signal (column 5:line 44-column 6:line 51;

column 7:line 59-column 8:line 48; transmission levels gathered at the master station are arranged to include slave id's from the wireless signal transmission).

Regarding claim 6, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: reception level writing means for writing the reception level into a wireless signal to be transmitted to the mobile terminal (column 5:line 44-column 6:line 51; column 7:line 59-column 8:line 48; reception levels gathered at the master station are arranged to include slave id's from the wireless level transmission).

Regarding claim 7, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses wherein: the reception level writing means write an identification code of the wireless communications apparatus into the wireless signal (column 5:line 44-column 6:line 51; column 7:line 59-column 8:line 48; reception levels gathered at the master station are arranged to include slave id's from the wireless level transmission).

Regarding claim 8, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: reception level sorting means for sorting the reception levels acquired by the reception level acquisition means (column 4:lines 26-59; column 7:lines 59-48).

Regarding claim 9, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: difference value sorting means for sorting difference values calculated by the difference value calculation means (column 7:line 59-column 8:line 48; path loss calculations).

Regarding claim 13, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: identification code acquisition means for acquiring respective identification codes for a plurality of the mobile terminals, the identification codes being contained in the wireless signals transmitted from the mobile terminals (column 6:line 15-26; column 7:line 59-column 35; identification codes for each device is inherently necessary to sort communication between devices); close terminal determination means for determining, as close mobile terminals, at least one mobile terminals providing a reception level greater than a predetermined threshold value among the reception levels acquired by the reception level acquisition means (column 7:line 23-41); and selection means for selecting, in accordance with the identification codes acquired for the close mobile terminals thus determined, mobile terminals having the identification code to be connected (column 7:line 23-41; identification codes for each device is inherently necessary to sort communication between devices).

Regarding claim 14, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: identification code acquisition means for acquiring respective identification codes for a plurality of the mobile terminals, the identification codes being contained in the wireless signals transmitted from the mobile terminals (column 6:line 15-26; column 7:line 59-column 35; identification codes for each device is inherently necessary to sort communication between devices); terminal determination means for determining at least one mobile terminals providing a transmission level greater than a predetermined

threshold value among the transmission levels acquired by the transmission level acquisition means (column 7:line 23-41); and selection means for selecting, in accordance with the identification codes acquired for the mobile terminals thus determined, mobile terminals having the identification code to be connected (column 7:line 23-41; identification codes for each device is inherently necessary to sort communication between devices).

Regarding claim 16, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level reduction means for reducing a transmission level of a wireless signal to be transmitted to a mobile terminal at a relative distance, having been estimated by the relative distance estimation means, shorter than a predetermined distance among the mobile terminals selected by the selection means (column 7:line 23-41).

Regarding claim 17, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level raise means for raising a transmission level of a wireless signal to be transmitted to a mobile terminal at a relative distance, having been estimated by the relative distance estimation means, longer than a predetermined distance among the mobile terminals selected by the selection means (column 7:line 23-41).

Regarding claim 18, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: writing control means for controlling the transmission level writing means to periodically write a transmission level into a wireless signal (column 7:lines 59-column 8:line 35).

Regarding claim 19, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: writing control means for controlling the reception level writing means to periodically write a reception level into a wireless signal (column 7:lines 59-column 8:line 35).

Regarding claim 20, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses a wireless communications system, including a plurality of the wireless communications apparatuses according to any one of claims 1-9, 18, and 19.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 10-12, 16, 17, 20 rejected under 35 U.S.C. 103(a) as being unpatentable over CALLAWAY, JR et al (US 6,745,038 B2) in view of PALAMARA et al (US 5,963,866).

Regarding claim 10, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: identification code acquisition means for acquiring respective identification codes for a plurality of the mobile terminals, the identification codes being contained in the wireless signals transmitted from the mobile terminals (column 6:line 15-26; column 7:line 59-column 35; identification codes for each device is inherently necessary to sort communication between devices); close terminal determination means for determining, as a close mobile terminal, a mobile terminal providing a reception level among the reception levels acquired by the reception level acquisition means (column 6:line 15-26; column 7:line 59-column 35); and selection means for selecting, in accordance with the acquired identification code of the closest mobile terminal thus determined, only the mobile terminal having the identification code to be connected (column 7:line 23-41). However, CALLAWAY does not expressly disclose wherein the terminal determination means provides selection of the closest terminal based on a largest reception level.

PALAMARA discloses wherein the terminal determination means provides selection of the closest terminal based on a largest reception level (column 5:line 60-column 7:line 19). Therefore it would have been obvious to a person of ordinary skill in the art to modify CALLAWAY in this way, as taught by PALAMARA, as both systems relate to mobile terminal positioning. This is beneficial in that stronger signal strength readings would occur between the devices provide there are no barriers between the devices.

Regarding claim 11, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: identification code acquisition means for acquiring respective identification codes for a plurality of the mobile terminals, the identification codes being contained in the wireless signals transmitted from the mobile terminals (column 6:line 15-26; column 7:line 59-column 35; identification codes for each device is inherently necessary to sort communication between devices); terminal determination means for determining a mobile terminal providing a transmission level among the transmission levels acquired by the transmission level acquisition means (column 6:line 15-26; column 7:line 59-column 35); and selection means for selecting, in accordance with the acquired identification code of the mobile terminal thus determined, only the mobile terminal having the identification code to be connected (column 7:line 23-41). However, CALLAWAY does not expressly disclose wherein the terminal determination means provides selection of the closest terminal based on a largest reception level.

PALAMARA discloses wherein the terminal determination means provides selection of the closest terminal based on a largest reception level (column 5:line 60-column 7:line

19). Therefore it would have been obvious to a person of ordinary skill in the art to modify CALLAWAY in this way, as taught by PALAMARA, as both systems relate to mobile terminal positioning. This is beneficial in that stronger signal strength readings would occur between the devices provide there are no barriers between the devices.

Regarding claim 12, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: identification code acquisition means for acquiring respective identification codes for a plurality of the mobile terminals, the identification codes being contained in the wireless signals transmitted from the mobile terminals (column 6:line 15-26; column 7:line 59-column 35; identification codes for each device is inherently necessary to sort communication between devices); close terminal determination means for determining, as a close mobile terminal, a mobile terminal providing a smallest difference value among the difference values calculated by the difference value calculation means (column 7:line 59-column 8:line 48; path loss calculations); and selection means for selecting, in accordance with the acquired identification code of the closest mobile terminal thus determined, only the mobile terminal having the identification code to be connected (column 7:line 23-41). However, CALLAWAY does not expressly disclose wherein the terminal determination means provides selection of the closest terminal based on a largest reception level. PALAMARA discloses wherein the terminal determination means provides selection of the closest terminal based on a largest reception level (column 5:line 60-column 7:line 19). Therefore it would have been obvious to a person of ordinary skill in the art to modify CALLAWAY in this way, as

taught by PALAMARA, as both systems relate to mobile terminal positioning. This is beneficial in that stronger signal strength readings would occur between the devices provide there are no barriers between the devices.

Regarding claim 16, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level reduction means for reducing a transmission level of a wireless signal to be transmitted to a mobile terminal at a relative distance, having been estimated by the relative distance estimation means, shorter than a predetermined distance among the mobile terminals selected by the selection means (column 7:line 23-41).

Regarding claim 17, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level raise means for raising a transmission level of a wireless signal to be transmitted to a mobile terminal at a relative distance, having been estimated by the relative distance estimation means, longer than a predetermined distance among the mobile terminals selected by the selection means (column 7:line 23-41).

Regarding claim 20, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses a wireless communications system, including a plurality of the wireless communications apparatuses according to any one of claims 10-12.

8. Claims 15, 16, 17 rejected under 35 U.S.C. 103(a) as being unpatentable over CALLAWAY, JR et al (US 6,745,038 B2).

Regarding claim 15, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: identification code acquisition means for acquiring respective identification codes for a plurality of the mobile terminals, the identification codes being contained in the wireless signals transmitted from the mobile terminals (column 6:line 15-26; column 7:line 59-column 35; identification codes for each device is inherently necessary to sort communication between devices); close terminal determination means for determining, as close mobile terminals (column 7:line 59-column 8:line 48); and selection means for selecting, in accordance with the identification codes acquired for the close mobile terminals thus determined, mobile terminals having the identification code to be connected (column 7:line 23-41). However, CALLAWAY does not expressly disclose at least one mobile terminal providing a difference value less than a predetermined threshold value among the difference values calculated by the difference value calculation means. CALLAWAY disclose wherein the RSSI is compared to a predetermined threshold value (column 7:line 23-41). CALLAWAY further discloses determining close terminals using a difference value calculation means (column 7:line 59-column 8:line 48; path loss calculations). Therefore it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify CALLAWAY to provide at least one mobile terminal providing a difference value less than a predetermined threshold value among the difference values calculated by the difference value calculation means, as this value is directly proportional to the signal strength calculation disclosed.

Regarding claim 16, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level reduction means for reducing a transmission level of a wireless signal to be transmitted to a mobile terminal at a relative distance, having been estimated by the relative distance estimation means, shorter than a predetermined distance among the mobile terminals selected by the selection means (column 7:line 23-41).

Regarding claim 17, see the rejections of the parent claim concerning the subject matter this claim is dependent upon. CALLAWAY further discloses further comprising: transmission level raise means for raising a transmission level of a wireless signal to be transmitted to a mobile terminal at a relative distance, having been estimated by the relative distance estimation means, longer than a predetermined distance among the mobile terminals selected by the selection means (column 7:line 23-41).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

MCCRADY et al (US 6,453,168 B1) – Determining the position of a mobile terminal using low accuracy clocks

GRAY et al (US 2003/0043073 A1) – Position detection and location tracking

KARMEL (US 6,353,743 B1) – Positioning system using packet radio to determine position

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ariel Balaoing whose telephone number is (571) 272-

7317. The examiner can normally be reached on Monday-Friday from 8:00 AM to 4:30 AM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571) 272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ariel Balaoing
Art Unit 2683
Patent Examiner

AB


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